

FIG. 1

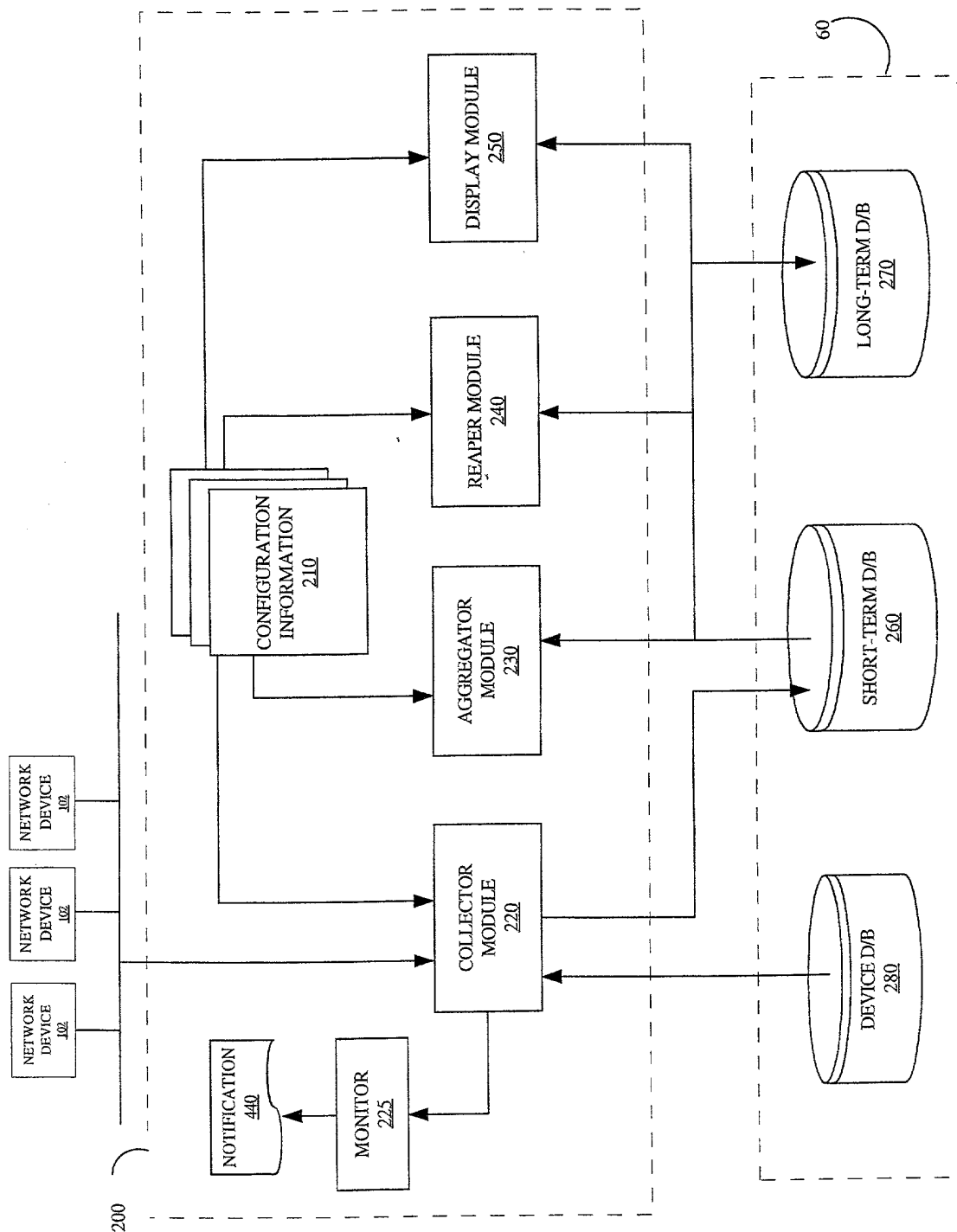


FIG. 2

XML CONFIGURATION PAGE

<i>NAME SECTION <u>310</u></i>
<i>SCHEDULER SECTION <u>320</u></i>
<i>TARGET SECTION <u>330</u></i>
<i>OPERATION SECTION <u>340</u></i>
<i>STORAGE SECTION <u>350</u></i>
<i>THRESHOLD SECTION <u>360</u></i>
<i>AGGREGATION SECTION <u>370</u></i>
<i>TABLE TRIMMER SECTION <u>380</u></i>
<i>PRESENTATION SECTION <u>390</u></i>

210

FIG. 3A

```
<!ELEMENT Collector (Schedule, InputBlock) >
<!ELEMENT Schedule (Poll?) >
<!ELEMENT Poll (EMPTY) >
<!ELEMENT InputBlock (QueryBlock) >
<!ELEMENT QueryBlock (Query, ForEachRow) >
<!ELEMENT Query (ModelQuery | SnmpQuerySet) >
<!ELEMENT ModelQuery (#PCDATA) >
<!ELEMENT SnmpQuerySet (SnmpQuery+) >
<!ELEMENT SnmpQuery (SnmpVariable+) >
<!ELEMENT SnmpVariable (EMPTY) >
<!ELEMENT ForEachRow (QueryBlock | OutputBlock) >
<!ELEMENT OutputBlock (Column*, Threshold*) >
<!ELEMENT Column (Formula) >
<!ELEMENT Formula (SimpleFormula | ArithmeticFormula) >
<!ELEMENT SimpleFormula (EMPTY) >
<!ELEMENT ArithmeticFormula (#PCDATA) >
<!ELEMENT Threshold (ArithmeticFormula, Notification) >
<!ELEMENT Notification (#PCDATA) >
<!ATTLIST Collector name CDATA #REQUIRED >
<!ATTLIST Collector version CDATA #REQUIRED >
<!ATTLIST Poll frequency CDATA #REQUIRED >
<!ATTLIST SnmpQuery ipVariable CDATA #REQUIRED >
<!ATTLIST SnmpQuery operation (GET|GETTABLE) #REQUIRED >
<!ATTLIST SnmpQuery instance CDATA #REQUIRED >
<!ATTLIST SnmpVariable name CDATA #REQUIRED >
<!ATTLIST SnmpVariable oid CDATA #REQUIRED >
<!ATTLIST SnmpVariable type
(OID|INT32|UINT32|TIMETICKS|COUNTER32|COUNTER64|GAUGE32|IPADDR
ESS|OCTETSTRING) #REQUIRED >
<!ATTLIST Column name CDATA #REQUIRED >
<!ATTLIST Column description CDATA #IMPLIED >
<!ATTLIST Column type (BOOL | INT8 | INT32 | INT64 | STRING |
FLOAT | DOUBLE) #REQUIRED >
<!ATTLIST Column size CDATA #IMPLIED >
<!ATTLIST Column isKey (YES|NO) "NO" >
<!ATTLIST SimpleFormula variableName CDATA #REQUIRED >
```

FIG 3B

```

311 { <?xml version="1.0" encoding="UTF-8" standalone="no" ?>
      <!DOCTYPE Collector SYSTEM "CscoHsaCollectorConfig.dtd" >
      <Collector name="Router Host Information" version="1.0">
321 {   <Schedule>
        <Poll frequency="60000" />
      </Schedule>
      <InputBlock>
        <QueryBlock>
331 {   <Query>
          <ModelQuery>select Name, SysName, ProductType,
ManagementIPAddress from Cisco_ManagedNetworkElement where
ProductFamily="Router"</ModelQuery>
        </Query>
        <ForEachRow>
          <QueryBlock>
            <Query>
              <SnmpQuerySet>
332 {   <SnmpQuery ipVariable="ManagementIPAddress"
operation="GET" instance="0" >
              <SnmpVariable name="SysUpTime"
oid="sysUpTime" type="TIMETICKS" />
              <SnmpVariable name="CPU1Minute"
oid="avgBusy1" type="INT32" />
341 {   <SnmpVariable name="CPU5Minute"
oid="avgBusy5" type="INT32" />
              </SnmpQuery>
            </SnmpQuerySet>
          </Query>
        </ForEachRow>
        <OutputBlock>
          <Column name="DeviceDbId" type="INT32" isKey="YES"
          >
            <Formula>
              <SimpleFormula name="Name" />
            </Formula>
          </Column>
          <Column name="HostName" type="STRING" size="1024">
            <Formula>
              <SimpleFormula name="SysName" />
            </Formula>
          </Column>
          <Column name="IPAddress" type="STRING" size="15" >
            <Formula>
351 {

```

FIG 3C

351 {
 >
 <SimpleFormula name="ManagementIPAddress" />
 </Formula>
 </Column>
 <Column name="ProductType" type="STRING" size="256"
 <Formula>
 <SimpleFormula name="ProductType" />
 </Formula>
 </Column>
 <Column name="SysUpTime" type="INT64" >
 <Formula>
 <SimpleFormula name="SysUpTime" />
 </Formula>
 </Column>
 <Column name="CPU1Minute" type="INT32" >
 <Formula>
 <SimpleFormula name="CPU1Minute" />
 </Formula>
 </Column>
 <Column name="CPU5Minute" type="INT32" >
 <Formula>
 <SimpleFormula name="CPU5Minute" />
 </Formula>
 </Column>
 <Threshold>
 361 <ArithmeticFormula>CPU5Minute >= 90
 & CPU5Minute.Previous < 90</ArithmeticFormula>
 362 <Notification>Router \$HostName\$ CPU
 utilization exceeded 90%</Notification>
 </Threshold>
 </OutputBlock>
 </ForEachRow>
 </QueryBlock>
 </ForEachRow>
 </QueryBlock>
 </InputBlock>
 </Collector>

FIG 3C
(continued)

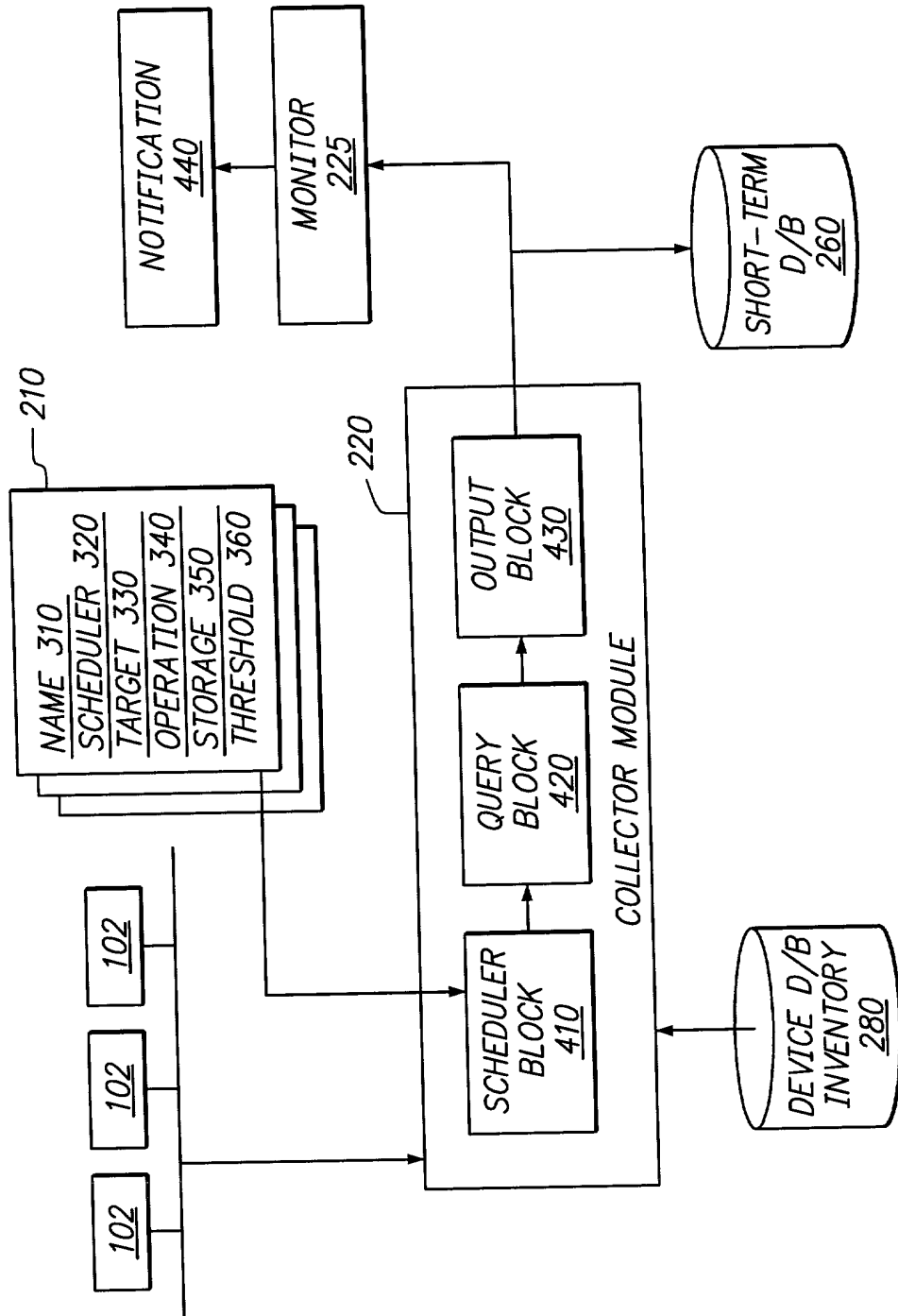


FIG. 4

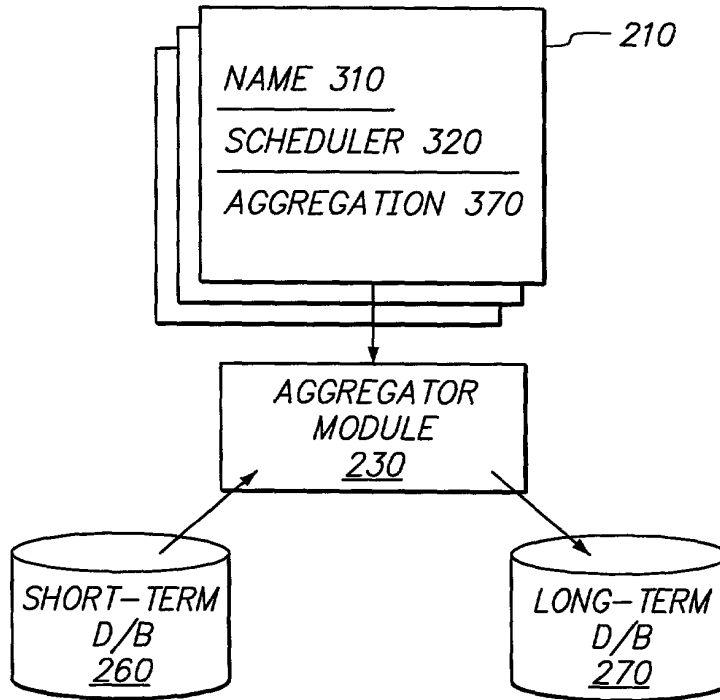


FIG. 5

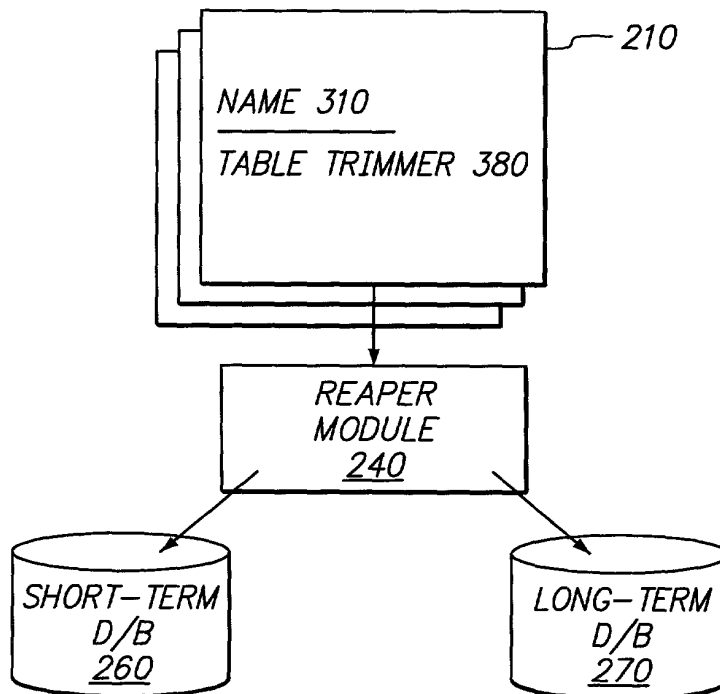


FIG. 6

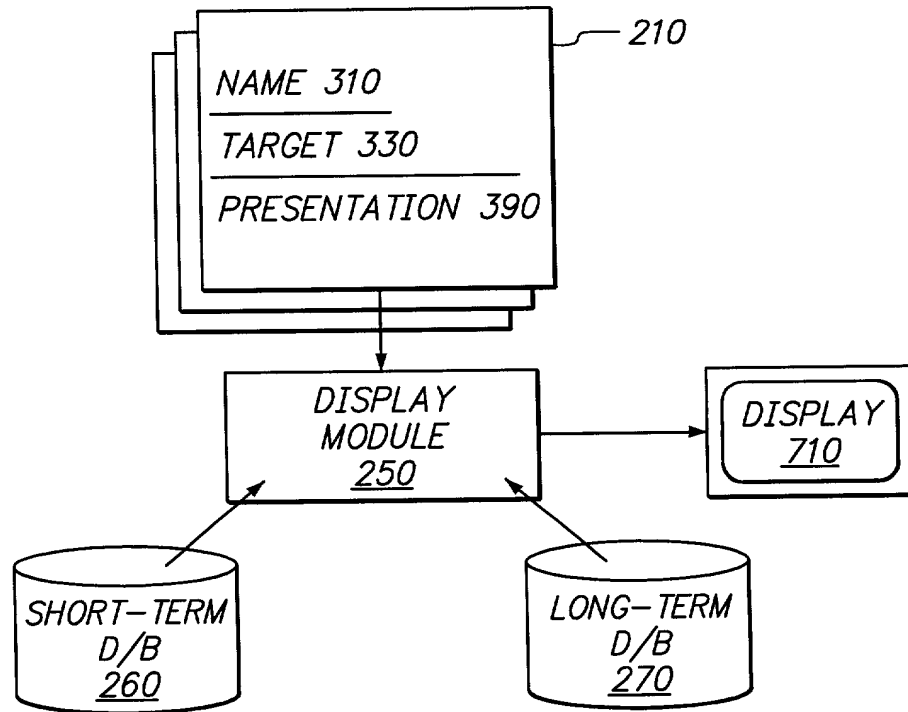
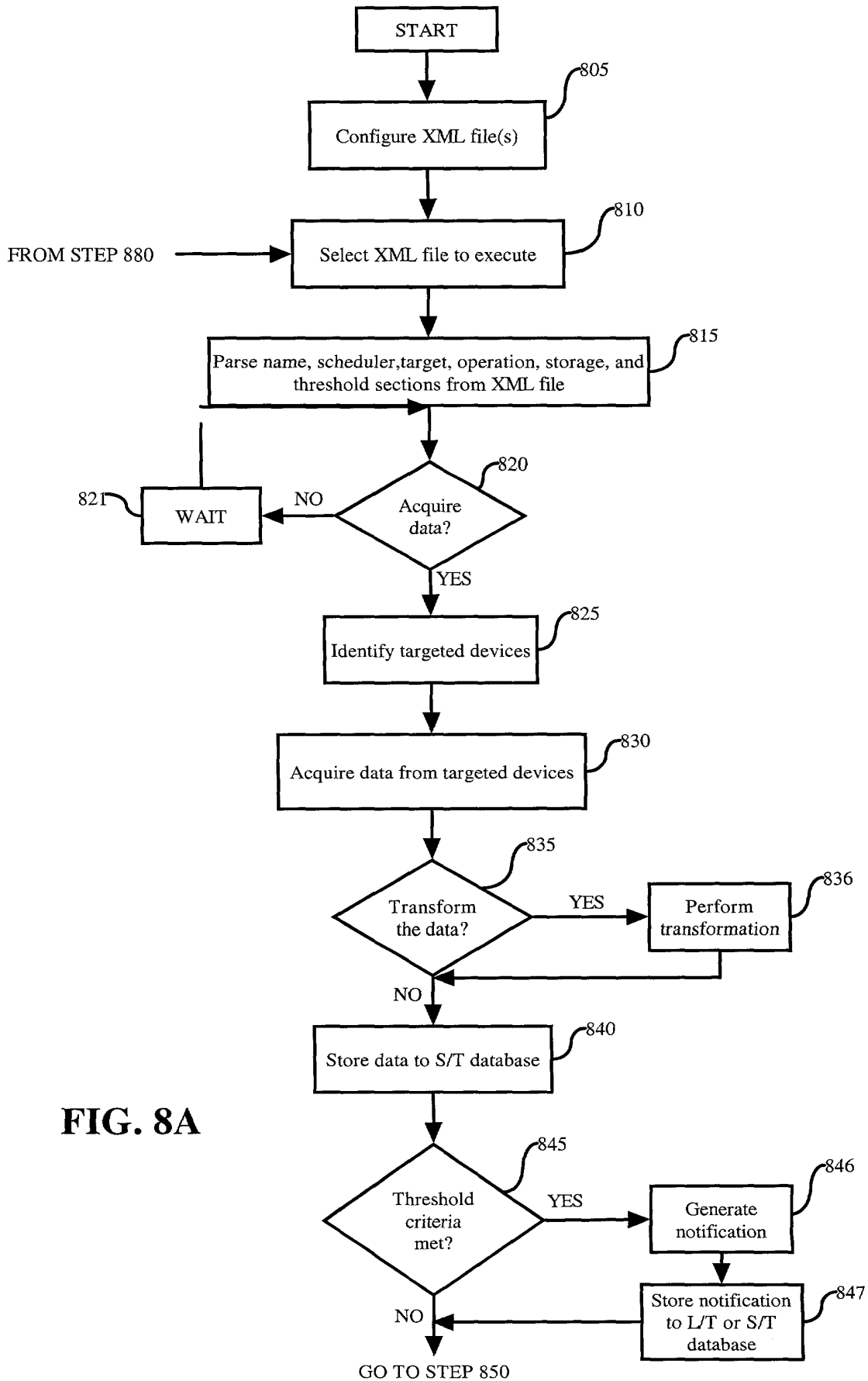


FIG. 7



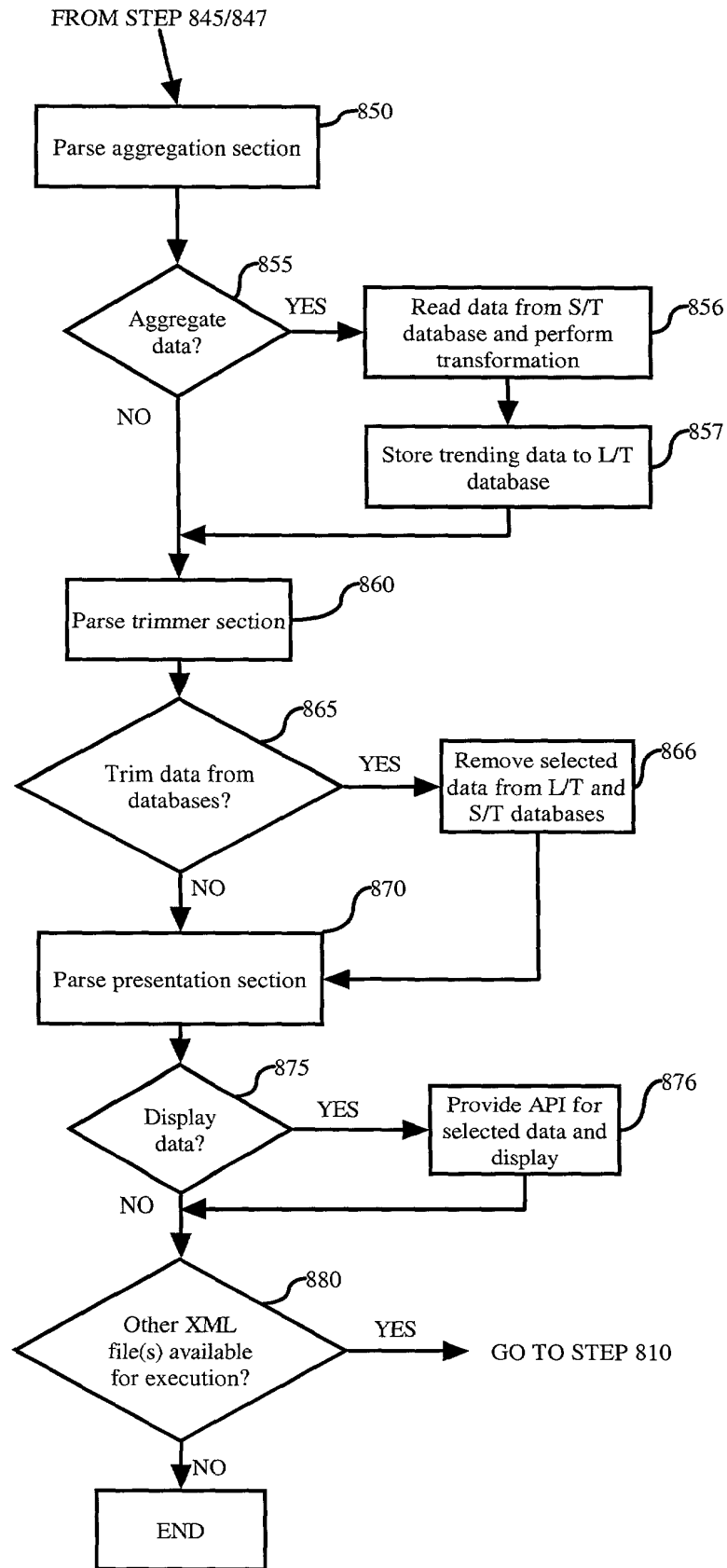


FIG. 9

